And at least one medical publication featured air pollution problems following an industrial health conference in Rochester, N. Y.

WASHINGTON DAILY NEWS
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EVIDENCE PILING UP

Air Pollution Could Be Big Killer, AMA Says

By JOHN TROAN Scripps-Howard Science Writer

We can't live without breathing. But sometimes what we do breathe helps kill us.

That's how the Journal of the American Medical Association sums up the growing problem of air pollution.

"Today, in numerous places thruout the world, the air contains hundreds of substances which were never intended to be inhaled," the Journal reports.

"Some of these make us uncomfortable or ill and at times hasten the end of human beings."

OBVIOUS

The Journal says it is obvious "unsavory gases and solids in the air" have produced "detrimental effects" on people. "However, as yet scientific proof of the specific hazards to human health is fragmentary, making it difficult to arrive at valid conclusions."

Nevertheless, the Journal notes, "there is no doubt" killer smogs can occur—as they have in Donora, Pa., and in London.

Furthermore, it says:

- The "evidence is clear that certain air pollutants can cause bronchitis."
- There is "abundant evidence that the Los Angeles smog affects the eyes of its citizens, temporarily at least, to the point of distraction."
- Evidence is accumulating which "suggests" that air pollution may be a cause of lung cancer, asthma and pulmonary emphysema, a condition that produces effects opposite to those of asthma.

In addition, the Journal points out, researchers are finding "a definite association" between air pollution and deaths due to hardening of the arteries, cancer of the stomach and cancer of the esophagus.

MEDICAL WORLD NEWS
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CONFERENCE STUDIES CARCINOGENS IN AIR

Lung cancer investigators have long pondered over the cumulative effects of the atmospheric pollutant 3, 4 benzpyrene, a known carcinogen in animals and a suspected one in man. They have likewise wondered how much of the compound, which is found in cigarette smoke, actually exists in city atmospheres.

Partial answers to both questions emerged from the 1960 Industrial Health Conference in Rochester, N. Y. Dr. William C. Hueper and William W. Payne, Sc.D, of the National Cancer Institute, reported that repeated small doses of 3, 4 benzpyrene given over a 12-month period appeared to induce more tumors in mice than did the same amount of the carcinogen in one large dose.

In experiments with 1,000 mice, the investigators injected quantities of benzpyrene ranging from 0.008 milligrams to 0.5 milligrams, either in a single dose or in 12 equal monthly injections. They found that the monthly doses produced more tumors—mostly of the fibrosarcoma or spindle-cell type—than the single injections, except at the lowest dosage levels.

This finding took on added significance in the light of a second report by Eugene Sawicki, Ph.D., of the Robert A. Taft Sanitary Engineering Center, Cincinnati. From extensive air samplings in 103 cities and 24 rural locations, he calculated that the nonsmoker in many large cities inhales more benzpyrene than a pack-a-day cigarette smoker in rural communities.

EAST HIGH, WEST LOW

Concentrations of the carcinogen were highest in the East and Midwest, lowest in the West, and from three to 20 times greater in winter than in summer. Birmingham, Alabama, tops all American cities in atmospheric benzpyrene: its nonsmoking residents inhale some 150 micrograms of the compound annually, as against 60 micrograms for the rural pack-a-day smoker. The Birmingham concentration, however, is far outclassed by that of smoky London.

As to the relationship between atmospheric benzpyrene and lung cancer, Dr. Sawicki reports that while mass data show a correlation between lung cancer mortality and community size, the relationship does not hold for individual cities. As a possible explanation, he notes that recent mortality figures presumably reflect exposure to carcinogens in 1920-50, which would probably differ in pattern from the 1959 measurements.

Single vs. repeated monthly doses of benzpyrene.